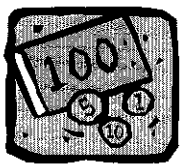
7.10 Regional Economics

Local regional economies would benefit from implementation of the CALFED Bay-Delta Program, but the regional economy of the Delta would be adversely affected by conversion of agricultural land to other uses. Program costs could exceed benefits in some other areas, but the amount and allocation of costs are currently uncertain.



7.10 Regional Economics

7.10.1 SUMMARY

Regional economies are the local systems of producing, delivering, and trading goods and services. Regional economics is concerned with the net effect of all Program actions on local economies. Employment, personal income, and impacts on public costs and finance are addressed in this section. Each of the CALFED Bay-Delta Program (Program) elements could affect regional economics. Most beneficial effects result from beneficial Program effects on water supply and quality, recreation, and reduced regulatory costs. Some beneficial effects are the result of increased asset values. Improved flood control, for example, could increase land values in the Delta.

Regional economies are the local systems of producing, delivering, and trading goods and services.

Preferred Program Alternative. Most potential adverse effects result from Program costs, but the pattern of cost repayment over regions is currently unknown. Other adverse effects are the result of converting agricultural land to other uses, such as habitat or levee setbacks. Potential adverse effects on income, employment, and public finance are projected to occur in the Delta Region—primarily due to effects on the agricultural sector. Negligible to moderate adverse effects are expected in the Sacramento River and San Joaquin River Regions.

Alternatives 1, 2, and 3. The pattern of potential adverse effects associated with Alternatives 1, 2, and 3 is largely the same as described for the Preferred Program Alternative. The conversion of Delta agricultural land to habitat, and subsequent adverse effects on the Delta economy, would occur under any of the three alternatives. These alternatives differ from the Preferred Program Alternative primarily in their effects on conveyance costs and quality of Delta exports.

7.10.2 AREAS OF CONTROVERSY

Under CEQA, areas of controversy involve factors that are not currently known or reflect differences in the opinions of technical experts. For example, opinions concerning the correct size of economic multipliers differ among technical experts. The costs, benefits, and patterns of cost allocation for Program actions have not yet been developed. Economic impacts on small communities cannot be identified until the location of specific projects have been identified. The external effects of Delta land conversion cannot be

Opinions concerning the correct size of economic multipliers differ among technical experts.

determined until specific locations and projects have been proposed. These areas of controversy must be addressed and analyzed at the site-specific level of analysis, which will occur as projects are proposed to carry out the Preferred Program Alternative.

7.10.3 AFFECTED ENVIRONMENT/ EXISTING CONDITIONS

7.10.3.1 DELTA REGION

The Delta Region includes many small communities in the Delta, as well as portions of three urban areas: Pittsburg/Antioch, Stockton, and Sacramento. Existing economic output, employment, income, and population data for the Delta Region are presented in Table 7.10-1.

In 1991, the population in the five Delta counties was approximately 2.9 million persons. The population grew by 24% from 1986 to 1995, at a rate similar to the state average. Most of this growth occurred in urban centers. As of the 1990 U.S. Census, Caucasians continued to compose the largest proportion of the population, although the relative proportion of all other ethnic groups has continued to rise. Historically, the Delta Region also has seen periods of high population growth. From 1940 to 1985, the population growth rate of the counties partially or entirely within the Delta Region exceeded that of the state as a whole. Contra Costa County's growth reflected the largest increase (611%), and San Joaquin County the smallest (211%). The average annual growth rate in the Delta Region was approximately 4%.

The composition of employment in the Delta Region counties has remained virtually unchanged since 1986. Services (including recreation-based services), government, and trade accounted for approximately 70% of total employment in the Delta Region counties in 1995. Agricultural employment remained at an estimated 2% of total employment from 1986 levels. In 1940, however, agriculture was the largest single employment sector in the Delta Region (21%), followed closely by manufacturing (19%).

The composition of employment in the Delta Region counties has remained virtually unchanged since 1986.

Since 1986, total personal income in the Delta Region counties has increased, dominated by the service sector. In 1990, median family incomes ranged from $35,000 in San Joaquin County to $52,000 in Contra Costa County. Poverty rates in the individual counties vary widely, from 7% in Contra Costa County to 17% in Yolo County. Total personal income in the Delta Region has also increased. Farm income as a portion of total personal income has decreased since 1980, while income associated with service and retail sectors has increased.

Total county property tax revenues for the Delta Region counties increased steadily from the 1985/86 fiscal year ($349 million) until the early 1990s ($485 million). Property tax revenues for the 1993/94 fiscal year ($332 million) indicate a substantial reduction in the amount collected by the individual counties, possibly due to the Education Reinvestment Augmentation Fund of 1992 (ERAF).

Table 7.10-1. Regional Economic Levels under Existing Conditions, 1992 Dollars

Region/Industry	Final Demand (billion dollars)	Total Industry Output (billion dollars)	Employ Compens. Income (billion dollars)	Property Income (billion dollars)	Place of Work Income (billion dollars)	Total Value Added (billion dollars)	Employ-ment (1,000s of jobs)
Delta Region							
Agriculture, forestry, fisheries	0.4	0.5	0.1	0.1	0.2	0.2	11
Mining	0.2	0.2	0.0	0.1	0.2	0.2	0
Construction	1.1	1.2	0.3	0.1	0.5	0.5	13
Manufacturing	2.9	3.5	0.8	0.6	1.4	1.5	20
Transportation, communication, utilities	0.6	1.1	0.3	0.3	0.5	0.6	8
Wholesale, retail trade	1.3	1.6	0.8	0.2	1.1	1.3	39
Finance, insurance, real estate	1.4	1.9	0.4	0.9	1.3	1.5	16
Services	1.9	2.6	1.2	0.5	1.7	1.7	53
Government enterprise, special industry	1.2	1.4	1.1	0.1	1.2	1.2	34
Total	**11.1**	**14.1**	**5.0**	**2.9**	**7.9**	**8.5**	**194**
Population (1,000s)						348	
Bay Region							
Agriculture, forestry, fisheries	1.2	1.5	0.4	0.3	0.7	0.7	29
Mining	3.6	3.7	0.3	1.5	1.8	2.5	5
Construction	14.8	16.9	5.2	1.6	6.8	6.8	165
Manufacturing	66.0	79.8	20.6	14.2	34.8	35.8	437
Transportation, communication, utilities	13.9	20.9	5.9	5.0	10.9	11.5	150
Wholesale, retail trade	23.3	29.1	14.6	4.2	18.9	23.4	626
Finance, insurance, real estate	24.9	34.4	7.0	16.5	23.6	27.3	262
Services	35.3	51.3	22.9	10.3	33.2	33.8	969
Government enterprise, special industry	15.1	16.6	13.7	0.6	14.0	14.0	406
Total	**198.2**	**254.1**	**90.6**	**54.2**	**144.5**	**155.9**	**3,049**
Population (1,000s)						4,916	
Sacramento River Region							
Agriculture, forestry, fisheries	1.8	2.6	0.3	0.6	0.9	0.9	55
Mining	0.7	0.8	0.1	0.5	0.6	0.6	2
Construction	8.4	9.4	2.4	0.8	3.2	3.3	100
Manufacturing	9.2	11.6	2.6	1.9	4.6	4.9	79
Transportation, communication, utilities	2.9	5.5	1.5	1.4	2.9	3.1	43
Wholesale, retail trade	7.9	9.4	4.9	1.2	6.2	7.5	254
Finance, insurance, real estate	8.9	11.8	2.1	5.5	7.6	9.3	103
Services	11.1	14.5	6.4	2.7	9.2	9.3	314
Government enterprise, special industry	11.2	12.3	9.1	1.2	10.3	10.3	294
Total	**62.1**	**77.9**	**29.5**	**15.8**	**45.3**	**49.4**	**1,244**
Population (1,000s)						2,352	

Table 7.10-1. Regional Economic Levels under Existing Conditions, 1992 Dollars (continued)

Region/Industry	Final Demand (billion dollars)	Total Industry Output (billion dollars)	Employ. Compens. Income (billion dollars)	Property Income (billion dollars)	Place of Work Income (billion dollars)	Total Value Added (billion dollars)	Employ-ment (1,000s of jobs)
San Joaquin River Region							
Agriculture, forestry, fisheries	9.1	12.5	1.4	2.4	3.8	3.9	249
Mining	4.0	4.4	0.2	2.3	2.6	3.1	5
Construction	7.1	8.4	2.1	0.6	2.7	2.8	89
Manufacturing	15.9	19.3	3.5	2.6	6.1	6.6	112
Transportation, communication, utilities	3.5	6.0	1.6	1.4	3.0	3.2	53
Wholesale, retail trade	6.9	8.8	4.7	1.2	5.9	7.2	240
Finance, insurance, real estate	6.5	9.2	1.5	4.6	6.1	7.5	77
Services	9.5	12.1	5.3	2.2	7.5	7.6	264
Government enterprise, special industry	6.7	7.1	6.1	0.3	6.5	6.5	212
Total	**69.3**	**87.9**	**26.4**	**17.7**	**44.1**	**48.4**	**1,302**
Population (1,000s)						2,759.0	
Other SWP and CVP Service Areas							
Agriculture, forestry, fisheries	7.4	9.9	1.9	2.0	3.9	4.0	200
Mining	7.2	7.6	0.6	2.7	3.3	4.9	13
Construction	48.6	55.6	15.1	5.3	20.5	20.7	578
Manufacturing	153.3	189.0	48.3	35.3	83.6	85.5	1,384
Transportation, communication, utilities	25.0	47.0	12.7	11.6	24.4	26.0	365
Wholesale, retail trade	69.3	85.7	41.5	12.2	53.6	68.1	2,044
Finance, insurance, real estate	76.1	104.6	18.9	52.6	71.5	84.0	803
Services	106.4	153.8	66.8	30.0	96.8	98.7	2,884
Government enterprise, special industry	46.5	51.8	41.6	1.6	43.1	43.1	1,329
Total	**540.0**	**705.0**	**247.5**	**153.4**	**400.8**	**435.0**	**9,600**
Population (1,000s)						16,612	

7.10.3.2 BAY REGION

Table 7.10-1 shows economic variables estimated for the Bay Region. The population in 1991 was estimated at 4.92 million persons, of which 3.05 million were employed. Primary employers were services, trade, and manufacturing. Historically, the population of the Bay Region increased from about 4.54 million in 1970 to 5.48 million in 1990, for an annual growth rate of 2.25%. The growth rate slowed between 1990 and 1995.

In 1991, total industrial output was estimated at $254 billion, total employee compensation was about $91 billion, and property income was $54 billion. The largest employers in the Bay Region in 1940 were services, wholesale and retail trade, and

By 1992, agriculture, forestry, and fishing accounted for only 0.4% of wage and salary employment in the region.

manufacturing sectors, respectively. Agriculture, forestry, and fishing accounted for 3.8% of total household employment in the region. By 1992, agriculture, forestry, and fishing accounted for only 0.4% of wage and salary employment in the region.

7.10.3.3 SACRAMENTO RIVER REGION

Table 7.10-1 shows economic variables estimated for the Sacramento River Region. In 1991, the regional population was estimated at 2.35 million persons, of which 1.24 million were employed. The population increased from about 1.23 million in 1970 to 2.21 million in 1990, for an annual growth rate of 8.26%. The growth rate slowed between 1990 and 1995.

Primary employers were services, government, trade, and finance/insurance/real estate. Total industrial output was estimated at $78 billion. Total employee compensation was about $30 billion, and property income was $16 billion. Most of the economic activity in the region is located in the Sacramento area and near Redding. Many small communities are largely dependent on agriculture. In 1940, agriculture was the largest single employer in the Sacramento River Region, providing 20.8% of total household employment in the region. By 1992, agricultural production provided 3.7% of total wage and salary employment in the area, or about 37,000 jobs.

From 1940 to 1992, the share of manufacturing employment fell from 12.2% to 7.8%. Transportation, communications, and utilities fell from 9.1% to 4.5%. Conversely, during the same period, wholesale and retail trade increased from 18.4% to 23.2%, services increased from 17.7% to 23.6%, and government increased from 8.2% to 26.9%. Currently, the largest proportions of wage and salary jobs in the region are in the government, services, and wholesale and retail trade sectors, respectively.

Patterns of employment growth in the Sacramento River Region reflect the changing rural and urban complexion of the region. While production agriculture provides less than 4% of wage and salary employment, the percentage varies widely among the counties. In 1992, production agriculture accounted for 33% of employment in Colusa County, 19% in Glenn County, and 16% in Yuba County. However, agriculture accounted for less than 1% of employment in the relatively urban Sacramento, Placer, and Nevada Counties.

Patterns of employment growth in the Sacramento River Region reflect the changing rural and urban complexion of the region.

7.10.3.4 SAN JOAQUIN RIVER REGION

Table 7.10-1 shows economic variables estimated for the San Joaquin Region. The population increased from about 1.676 million in 1970 to 2.974 million in 1990, for an annual growth rate of 7.72%. In 1991, 1.3 million persons were employed. Primary employers were services, agriculture/forestry/fisheries, trade, and government. Total industrial output was estimated at $88 billion. Total employee compensation was about $26 billion, and property income was $18 billion.

The growth rate slowed between 1990 and 1995. In 1940, agriculture was the largest single employer in the San Joaquin River Region. At that time, agricultural production provided about one-third of total household employment in the region. By 1992, agricultural production provided less than 10% of total wage and salary employment in the area, or about 93,000 jobs. Currently, the largest proportions of wage and salary jobs in the region are in the services, wholesale and retail trades, and government sectors, respectively.

Currently, the largest proportions of wage and salary jobs in the San Joaquin River Region are in the services, wholesale and retail trades, and government sectors, respectively.

7.10.3.5 Other SWP and CVP Service Areas

The study area includes service areas receiving SWP water in DWR's South Coast Region, Central Coast Region, and the Antelope Valley and Mojave River Planning Subareas of the South Lahontan Region. The San Felipe service area of the CVP, and the South and North Bay Aqueduct Regions are included in the Bay Region.

The South Coast Region includes the cities of Los Angeles and San Diego. Central Coast SWP contractors are in Santa Barbara and San Luis Obispo Counties. These two counties are served by deliveries through the Coastal Aqueduct of the SWP. Table 7.10-1 shows economic variables estimated for the Other SWP and CVP Service Areas. In 1991, 9.6 million persons were employed. Primary employers were services, trade, manufacturing, and government. Total industrial output was estimated at $705 billion. Total employee compensation was about $247.5 billion, and property income was $153 billion.

The first European use of the Central and South Coast Regions involved Spanish settlement for trade and cattle production. After statehood, the region grew quickly as agriculture, business, and industry took advantage of the region's warm Mediterranean climate. The Los Angeles metropolitan area is now the second largest in the nation. Population increased from about 12.1 million in 1970 to 18.2 million in 1990, for an annual growth rate of 4.4%. The population growth rate slowed between 1990 and 1995.

The Los Angeles metropolitan area is now the second largest in the nation.

7.10.4 ASSESSMENT METHODS

The economic sectors most likely to be directly affected by the Program are agriculture, urban water supply, commercial fishing, recreation, construction, and hydropower. Specific economic effects for each sector are addressed in other sections. This section applies the projected economic changes of each sector to assess the general magnitude of direct and indirect effects on regional economies. The primary economic indicators assessed are employment, personal income, and public finance. Public finance involves the collection of income by public entities such as the State, towns and special districts.

The five economic sectors most likely to be directly affected by the Program are agriculture, urban water supply, commercial fishing, recreation, construction, and hydropower.

In general, the expenditure of Program funds stimulates the economy at the location of the expenditure. The expenditure results in economic multiplier effects as it is respent in the regional economy. A multiplier is a direct expenditure, plus all the respending, divided by the direct expenditure alone. Some of the initial expenditure and respending are paid

In general, the expenditure of Program funds stimulates the economy at the location of the expenditure.

for goods and services from outside the region. These outside expenditures are called leakage. Leakage reduces the size of economic multipliers.

Expenditures must come from somewhere. Costs must be paid by somebody. The source of the money acquired for the expenditure is affected in opposite ways from the location of the expenditure. If money is merely taken from one region and given to another the net effect on expenditure is zero.

Programs, however, are not just transfers of money between regions. The expenditure also has a result in terms of the physical and economic consequence of the program. The program may build storage facilities or levees, conserve water, or convert farmland, for example, and these actions result in regional economic implications beyond the expenditures alone. If beneficiaries pay for a program and the long-run monetary benefits exceed costs, the beneficiaries realize more money to spend—in net income, disposable income, profits, or rents. This additional spending is an economic stimulus to the region. On the other hand, if the share of costs paid by the region exceeds the benefits, disposable income may be reduced and spending decreased.

In this simple construct, expenditure, employment, income, and public finance always move in the same direction. Employment is merely the physical unit to which employment income is paid. All changes in incomes, net incomes, and sales affect public finance through income, sales, and property taxes. Expenditure and subsequent multiplier effects have beneficial effects on public finance, but the economic consequences of a project may include impacts on costs of public services that must also be accounted for. Changes in net income can influence property values if net income is tied to the property. This is the case with agricultural land. If expected net returns increase or expected costs decrease, land value also is increased or decreased. Changes in land prices affect public finance through property taxes.

In this simple construct, employment, income, and public finance always move in the same direction.

Regional economic effects also can occur through price changes and substitution effects. Price changes occur when supply or demand shifts cause prices to be bid up or down. Changes in the availability of land or water may cause prices to change. Land prices can be affected by changes in agricultural net revenues. Some prices—agricultural commodities, for example—are strongly influenced by trade and policy conditions determined outside California. Substitution effects occur when one factor of production is substituted for another. Irrigation technology and labor can be substituted for irrigation water, for example. Price changes and substitution effects can influence patterns of regional/economic effects. In general, these market effects will work to reduce economic costs by finding efficient ways to deal with them.

Regional economic effects also can occur through price changes and substitution effects.

The following assumptions were made for the quantitative portions of this analysis:

- Average gross revenue per acre of cropland is between $500 and $1,500 per year.
- Fifty direct jobs are created per $1 million of agricultural revenue.

- Costs of storage and conveyance facilities are taken from the Storage and Conveyance Component Cost Estimates, dated April 29, 1998.

Most other information about regional impacts is provided in a qualitative fashion. Insufficient information about direct economic effects is available to perform a complete quantitative analysis of impacts by region. For this analysis, the evaluation methodology has identified the overall level of magnitude and direction of potential regional economic impacts, based on the description of Program actions for each alternative and an estimate of the degree to which each Program action or component would affect water and land use in each region.

The programmatic nature of this analysis does not support complete estimation of specific changes in economic values in the local communities within each of the identified study areas. The Program recognizes that impacts on individual counties and communities can be proportionately greater or smaller than the regional impacts are designed to show. These more localized impacts will be assessed when decisions are made about implementation of specific projects.

The programmatic nature of this analysis does not allow accurate estimates of specific changes in economic values in local communities.

7.10.5 CRITERIA FOR DETERMINING EFFECTS

Levels of effect are identified for employment and income on the basis of potential changes in sectoral employment within each region in comparison to regional employment. Employment changes in small subregions may be a much larger percent of subregional employment. No attempt has been made to isolate effects in smaller subregions or individual communities. Qualitative assessment of effects on public finance is provided.

Employment is related to social well-being. The significance of employment effects on social well-being is discussed in Section 7.3, "Agricultural Social Issues."

7.10.6 NO ACTION ALTERNATIVE

The 2020 condition for regional economics incorporates economic growth but not change in economic structure. It is assumed that the California economy will continue to grow at a rate similar to the forecasted rate of population growth, but the No Action Alternative regional economic structure is assumed to remain the same as existing conditions. This means that economic shares are assumed to remain the same as the economy grows. Based on past trends, it might be assumed that manufacturing, agriculture, and mining would continue to decrease in relative importance while government and services increase. This continued trend is not reflected in this analysis, and 2020 regional economies are larger but otherwise the same as in existing conditions.

The 2020 condition for regional economics incorporates economic growth but not change in economic structure.

The No Action Alternative economic data for each region are provided in Table 7.10-2. These data were obtained from the IMPLAN 1991 database and adjusted for economic growth to 2020 using population forecasts issued by the California Department of Finance.

The comparison of Program alternatives to existing conditions is the same as the comparison to the No Action Alternative, except that 1995 development conditions are different from the 2020 development conditions in the No Action Alternative. The No Action Alternative conditions require more water supply to meet 2020 demand. DWRSIM results suggest that export supplies can be increased to meet these demands on average, but not in dry periods. This finding implies that local water supplies must be increased, or per capita demands reduced, by 2020. The conclusions regarding project effects on regional economics when compared to existing conditions would be similar to those compared to the No Action Alternative.

7.10.7 CONSEQUENCES: PROGRAM ELEMENTS COMMON TO ALL ALTERNATIVES

For regional economics, the environmental consequences of the Ecosystem Restoration, Water Quality, Levee System Integrity, Water Use Efficiency, and Water Transfer, and Watershed Programs, and the Storage element are similar under all Program alternatives, as described below. The environmental consequences of the Conveyance element vary among Program alternatives, as discussed in Section 7.10.8.

7.10.7.1 DELTA REGION

Ecosystem Restoration Program

Most effects in the Delta Region involve the loss of agricultural land. Increases in the recreation economy and temporary effects of construction are not expected to fully compensate for losses in the agricultural economy.

Increases in the recreation economy and temporary effects of construction are not expected to fully compensate for losses in the agricultural economy in the Delta Region.

The Ecosystem Restoration Program would directly affect land and water resources used for agricultural production in the Delta. Substantial direct losses to farm revenues and employment also would result in adverse indirect effects on local communities and public finance. Ecosystem Restoration Program actions could result in a total regional loss of agricultural revenues of $60-$225 million per year or more, representing about 20% of the regional total. Approximately 3,000-11,000 jobs, or about half of the regional agricultural employment, may be lost through just the direct effects. Total effects across all sectors could amount to losses of approximately $120-$500 million in output and 10,000-20,000 jobs worth about $200-$400 million in personal income. Although these impacts are a small fraction (from 2 to 5%) of the regional economy, they could be very important on

a localized basis. The loss of property taxes could result in a negative effect on public finance for county, municipal, and other local jurisdictions.

Possible methods of alleviating these effects could include phasing project elements in order to allow local economies to gradually adjust to new conditions; providing job training and retraining, and supporting actions for economic development loans and grants; providing technical assistance to displaced farmers; supporting actions to alleviate the proposed removal of private lands from tax and assessment roles by, for example, making in-lieu payments to local governments; supporting actions to provide economic development and transitional assistance funds; minimizing or avoiding fallowing, or shifting to crops that require high input and output expenditures; promoting geographically broad-based ecosystem restoration to ensure that no one localized area is involved in a disproportionately large amount of land conversion; limiting the amount of acreage that can be fallowed in a given area; minimizing job loss to the extent possible by relocating facilities and shifting agriculture to new areas; providing job referral and placement services; supporting actions to compensate local governments for increased demand for services resulting from labor displacement; and supporting actions to compensate workers displaced by specific transfers through such actions as augmenting unemployment insurance benefits.

Short-term adverse impacts on recreation could occur as Ecosystem Restoration projects are implemented, but improved recreational opportunities, especially for fishing, are expected to increase Delta recreation in the long run. The increased jobs and spending in the recreational and fisheries sectors are not expected to offset the losses stemming from agricultural land conversion.

Improved recreational opportunities, especially for fishing, are expected to increase Delta recreation in the long run.

Additional mosquito control costs may be caused by increased wetland acreage. The magnitude of the costs and their allocation are currently unknown for this potentially adverse economic impact.

Water Quality Program

Potential regional economic impacts from the Water Quality Program are expected to be low to moderate. Increased emphasis on control of Delta island drainage might require new treatment or drainage rerouting. Improved water quality will benefit the ecosystem, recreational activities, and some Delta municipal and industrial (M&I) water users. The costs associated with any water quality improvement are unknown.

Increased emphasis on control of Delta island drainage might require new treatment or drainage rerouting.

Levee System Integrity Program

Short-term economic benefits would occur in construction and related industries from expenditure of about $1.5 billion for upgrades on about 600 miles of levees. Increased levee system reliability could enhance land values and result in a beneficial impact on public finance. Costs of the program could offset the economic benefits; however, no information on cost allocation is available to calculate a net effect.

Short-term economic benefits would occur in construction and related industries from expenditure of about $1.5 billion for upgrades on about 600 miles of levees.

Table 7.10-2. Regional Economic Levels under the No Action Alternative, 2020, 1992 Dollars

REGION/INDUSTRY	FINAL DEMAND (billion dollars)	TOTAL INDUSTRY OUTPUT (billion dollars)	EMPLOY. COMPENS. INCOME (billion dollars)	PROPERTY INCOME (billion dollars)	TOTAL PLACE OF WORK INCOME (billion dollars)	TOTAL VALUE ADDED (billion dollars)	EMPLOY-MENT (1,000s of jobs)
Delta Region							
Agriculture, forestry, fisheries	0.5	0.7	0.1	0.1	0.2	0.2	14
Mining	0.3	0.3	0.0	0.2	0.2	0.2	0
Construction	1.4	1.6	0.4	0.1	0.6	0.6	16
Manufacturing	3.7	4.5	1.1	0.7	1.8	1.9	26
Transportation, communication, utilities	0.8	1.3	0.4	0.3	0.7	0.7	10
Wholesale, retail trade	1.7	2.1	1.1	0.3	1.3	1.7	50
Finance, insurance, real estate	1.8	2.4	0.5	1.2	1.6	1.9	20
Services	2.4	3.3	1.5	0.6	2.1	2.2	67
Government enterprise, special industry	1.6	1.7	1.4	0.1	1.5	1.5	44
Total	**14.1**	**18.0**	**6.3**	**3.7**	**10.1**	**10.9**	**248**
Population (1,000s)						445	
Bay Region							
Agriculture, forestry, fisheries	1.5	2.0	0.5	0.4	0.9	0.9	37
Mining	4.6	4.7	0.3	1.9	2.3	3.1	6
Construction	18.9	21.5	6.6	2.1	8.6	8.7	210
Manufacturing	84.2	101.8	26.2	18.1	44.4	45.7	558
Transportation, communication, utilities	17.8	26.6	7.5	6.3	13.8	14.7	191
Wholesale, retail trade	29.7	37.1	18.7	5.4	24.1	29.9	799
Finance, insurance, real estate	31.8	43.9	9.0	21.1	30.1	34.9	334
Services	45.0	65.5	29.3	13.1	42.4	43.1	1,237
Government enterprise, special industry	19.3	21.2	17.5	0.7	17.8	17.8	518
Total	**252.9**	**324.3**	**115.6**	**69.2**	**184.4**	**198.9**	**3,891**
Population (1,000s)						6,273	
Sacramento River Region							
Agriculture, forestry, fisheries	3.1	4.5	0.5	1.0	1.6	1.7	97
Mining	1.3	1.4	0.1	0.9	1.0	1.1	3
Construction	14.8	16.4	4.3	1.3	5.6	5.7	176
Manufacturing	16.1	20.4	4.6	3.3	8.0	8.6	138
Transportation, communication, utilities	5.1	9.6	2.6	2.5	5.1	5.5	76
Wholesale, retail trade	13.9	16.5	8.6	2.2	10.8	13.2	445
Finance, insurance, real estate	15.6	20.6	3.7	9.6	13.3	16.4	181
Services	19.5	25.5	11.3	4.8	16.1	16.4	550
Government enterprise, special industry	19.6	21.6	16.0	2.1	18.1	18.1	515
Total	**108.9**	**136.5**	**51.8**	**27.7**	**79.5**	**86.5**	**2,181**
Population (1,000s)						4,123	

Table 7.10-2. Regional Economic Levels under the No Action Alternative, 2020, 1992 Dollars (continued)

REGION/INDUSTRY	FINAL DEMAND (billion dollars)	TOTAL INDUSTRY OUTPUT (billion dollars)	EMPLOY. COMPENS. INCOME (billion dollars)	PROPERTY INCOME (billion dollars)	TOTAL PLACE OF WORK INCOME (billion dollars)	TOTAL VALUE ADDED (billion dollars)	EMPLOY-MENT (1,000s of jobs)
San Joaquin River Region							
Agriculture, forestry, fisheries	19.6	26.9	3.0	5.2	8.2	8.4	533
Mining	8.6	9.4	0.5	5.0	5.5	6.7	11
Construction	15.3	17.9	4.5	1.3	5.9	5.9	192
Manufacturing	34.0	41.3	7.5	5.6	13.2	14.2	240
Transportation, communication, utilities	7.5	12.8	3.4	3.0	6.4	6.9	114
Wholesale, retail trade	14.7	18.9	10.0	2.6	12.6	15.3	513
Finance, insurance, real estate	14.0	19.8	3.2	9.8	13.0	16.0	166
Services	20.3	26.0	11.3	4.7	16.0	16.3	566
Government enterprise, special industry	14.4	15.3	13.1	0.7	13.8	13.8	455
Total	**148.4**	**188.3**	**56.6**	**37.9**	**94.5**	**103.6**	**2,790**
Population (1,000s)						5,911	
Other SWP and CVP Service Areas							
Agriculture, forestry, fisheries	11.2	15.1	2.9	3.1	5.9	6.0	305
Mining	11.0	11.6	0.9	4.2	5.1	7.5	20
Construction	74.0	84.6	23.0	8.1	31.2	31.4	879
Manufacturing	233.3	287.6	73.5	53.8	127.3	130.1	2,106
Transportation, communication, utilities	38.1	71.5	19.4	17.7	37.1	39.6	556
Wholesale, retail trade	105.5	130.4	63.1	18.5	81.6	103.6	3,111
Finance, insurance, real estate	115.8	159.1	28.8	80.0	108.8	127.8	1,221
Services	161.9	234.1	101.7	45.7	147.4	150.3	4,389
Government enterprise, special industry	70.8	78.8	63.2	2.4	65.6	65.6	2,022
Total	**821.7**	**1,072.8**	**376.6**	**233.4**	**609.9**	**661.9**	**14,608**
Population (1,000s)						25,279	

Water Use Efficiency Program

Water Use Efficiency could provide a benefit to rural communities and regional economies that depend on agriculture through several mechanisms:

- Some of the expenditure for irrigation improvements could stimulate the regional economy.
- Cost-effective expenditure on irrigation could increase net returns.

- Some incidental effects of improved efficiency, such as better water quality or increased crop yields, could benefit agriculture.

The Program may provide cost sharing, up to $30 million annually statewide, for water use efficiency. Benefits of municipal water use efficiency include:

- The costs of new water supplies avoided plus other costs, such as energy costs, avoided by conservation.
- Water reuse benefits, if water reuse is a cost-effective supply.

Costs of improved water use efficiency and water reuse could offset these agricultural and municipal benefits. However, little information on the amount of costs and cost allocation is available to calculate a net effect. It is believed that costs of some of the water reuse proposed by the Program are more per unit than the costs of other new water supplies.

Costs of improved water use efficiency and water reuse could offset agricultural and municipal benefits of Water Use Efficiency Program actions.

Water Transfer Program

The voluntary transfer of water out of the Delta Region that may occur is not expected to result in any adverse economic effects on the region. The Water Transfer Program will be designed to avoid significant effects from fallowing irrigated land. Water transfer to urban water use in the Delta might reduce water supply costs and have regional economic benefits.

The voluntary transfer of water out of the Delta Region that may occur is not expected to result in any adverse economic effects on the region.

Watershed Program

The Watershed Program is not expected to result in any substantial impacts in the Delta Region.

Storage

With new storage, water supplies in dry and average years would increase. Dry-year supplies would increased substantially in comparison to a Program alternative without new storage. Total water supplies for all users would increase from 600 to 800 TAF on average and by over 1 MAF in some critical years. Delta Region water users would obtain only a fraction of the total increase. Any storage facilities constructed in the Delta would cause additional losses of agricultural production and would result in temporary local benefits from construction expenditures.

Program alternatives would increase CVP and SWP available electrical generation capacity and generation if storage facilities are developed; however, the increase in CVP and SWP project energy use associated with the Program would be greater than the increase in power production. Therefore, the amount of power available for sale

Any storage facilities constructed in the Delta would cause additional losses of agricultural production and would result in temporary local benefits from construction expenditures.

from the projects would be reduced, the SWP's net energy requirement would increase, and Western and DWR likely would increase their power rates. Increases in Western power rates could cause adverse impacts on Western and its preference power customers. Increased power costs could reduce disposable income and regional spending.

7.10.7.2 BAY REGION

None of the Program elements are expected to produce long-term adverse economic effects on the regional economy of the Bay Region. This finding is primarily due to the size of the Bay Region economy in comparison to Program costs. Public finances are not expected to be substantially adversely affected.

None of the Program elements are expected to produce long-term adverse economic effects on the regional economy of the Bay Region.

Ecosystem Restoration Program

The Ecosystem Restoration Program would have little effect on the Bay Region, except that (1) some expenditures on the program would be captured by the region, a short term effect; (2) some increases in recreational spending might occur; and (3) the region may pay for some of the program. The amount of cost and cost allocation are currently unknown.

Levee System Integrity Program

Short-term economic benefits would occur in construction and related industries due to the expenditure of about $1.5 billion for upgrades on about 600 miles of levees in the Delta. Some of this expenditure would spill into the Bay Region.

Water Transfer Program

The Water Transfer Program might allow more water to be imported into the Bay Region, augmenting existing supplies, improving reliability, and reducing water supply costs.

Water Quality and Water Use Efficiency Programs

Implementation costs associated with the Water Quality and Water Use Efficiency Programs could result in short-term adverse effects. Over the long term, income generation might increase as a result of increased water supply reliability. Improved water quality could benefit the commercial fishing and recreation industries. Relocation of water supply intakes and construction of water reuse projects could provide new construction income and employment for the region.

Improved water quality could benefit the commercial fishing and recreation industries.

Watershed Program

The Watershed Program is not expected to substantially affect land use in the Bay Region. The region may pay for some of the program, but the costs and cost allocation for the Watershed Program are currently unknown.

Storage

Increased storage could increase water supply, reducing costs for other supplies. Based on current allocation patterns, and before considering storage costs, additional water supplies with new storage could save M&I users from $3 million to $19 million per year. Local beneficiaries would pay for the share of water supply they use. The effects on public finance and regional economics from the financing of storage are currently unknown. Some of the expenditure for storage facilities would spill into the region. Regional economic impacts from power production are the same as those described for the Delta Region.

The effects on public finance and regional economics from the financing of storage are currently unknown.

7.10.7.3 SACRAMENTO RIVER REGION

Ecosystem Restoration Program

The Ecosystem Restoration Program would directly affect land and water resources used for agricultural production in the Sacramento River Region. Slight to moderate amounts of farm revenues and employment would be lost, and these direct effects would result in adverse indirect effects on local communities and public finance. Ecosystem Restoration Program big actions could result in a total regional loss of agricultural revenues of up to $34 million per year. Possible methods of alleviating these effects were discussed for the Delta Region.

Increases in recreation activities could offset some of these effects due to loss of agricultural revenues in the Sacramento River Region.

Water Quality Program

Implementation costs associated with the Water Quality Program could result in short-term adverse impacts, but construction expenditures could be beneficial to the local economy. Costs and cost allocation are currently unknown.

Levee System Integrity Program

Economic effects associated with the Levee System Integrity Program in the Sacramento River Region are expected to be negligible. Some spillover of construction expenditure can be expected.

Water Use Efficiency Program

Impacts on regional economics in the Sacramento River Region associated with the Water Use Efficiency Program would be similar to those described for the Delta Region.

Water Transfer Program

Use of temporary land fallowing as a source for water to transfer could result in adverse economic effects, depending on the magnitude, timing, and source of water. These effects would be minimal if appropriate protections are in place. Revenues generated by water transfers could offset some of the loss if the transfer proceeds are spent in the region. This region may function primarily as a source of water transferred into other regions and therefore primarily would experience adverse effects. Possible methods of alleviating these effects could include supporting actions to provide economic development and transitional assistance funds, and limiting the amount of acreage that can be fallowed in a given area.

Use of temporary land fallowing as a source of water to transfer could result in adverse effects, depending on the magnitude, timing, and source of water.

Watershed Program

Watershed activities could substantially affect land use in the region. Economic impacts depend on the types of actions and the form of incentives used to obtain the desired results. Subsidies would be generally beneficial to the regional economy.

Watershed activities could substantially affect land use in the Sacramento River Region.

Storage

Increased storage could increase water supply, reducing costs for other supplies. Local beneficiaries would pay for the share of water supply that they use, but costs of Program supplies are currently unknown.

Agricultural land could be lost by inundation, resulting in a loss of farm revenue of approximately $32 million. With impacts of the Ecosystem Restoration Program, about 1% of the regional agricultural revenues could be affected. Up to 3,300 jobs might be lost, representing less than 1% of all regional jobs. Since agricultural spending and income are a small share of total regional spending and income, the net region-wide effect on personal income, employment, and public finance would be negligible; however, they could be important on a localized basis. Agricultural water users may obtain additional water supplies, which could reduce or eliminate net losses.

Effects of construction expenditure could result in localized beneficial effects. Total expenditures for storage and related facilities could be from $1 to $3 billion dollars. Most of these effects would be short term. Impacts on recreation spending are expected to be positive. Regional economic impacts from power production are the

Effects of construction expenditure could result in localized beneficial effects.

same as those described for the Delta Region. The effects on public finance and regional economics from financing storage are currently unknown.

7.10.7.4 SAN JOAQUIN RIVER REGION

Effects on the San Joaquin River Region should be similar to those described for the Sacramento River Region, except as noted below.

Ecosystem Restoration Program

Ecosystem Restoration Program actions could result in a total regional loss of agricultural revenues of up to $11 million per year. Urban water quality for export users south of the Delta could be affected. Possible methods of alleviating these effects were discussed for the Delta Region.

Water Quality Program

Urban water quality for export users south of the Delta could be affected by Water Quality Program actions. Increased and usable water supplies may enhance economies or benefit the regional economy by lowering treatment costs. Please refer to Section 5.3, "Water Quality," and Section 7.5, "Urban Water Supply Economics," for more information.

Urban water quality for export users south of the Delta could be affected by Water Quality Program actions.

Levee System Integrity and Watershed Programs

Economic impacts associated with the Levee System Integrity and Watershed Programs in the San Joaquin River Region are expected to be negligible.

Water Use Efficiency Program

The Water Use Efficiency Program could affect agricultural economies south of the Delta by requiring increased costs, and by fallowing land for water transfers. The Water Transfer Program will be designed to avoid such effects, and agricultural water use efficiency will occur only if cost effective.

Water Transfer Program

The Water Transfer Program most likely would result in beneficial economics effects in the San Joaquin River Region. Beneficial effects of transfers are more likely to occur in the San Joaquin Valley, since transfers from this area are more likely to be

Beneficial effects of transfers are more likely to occur in the San Joaquin Valley, since transfers from this area are more likely to be surplus reservoir water or transfers based on conjunctive use and groundwater banking projects.

surplus reservoir water or transfers based on conjunctive use and groundwater banking projects. In addition, this area is likely to be the recipient of water transferred in from the Sacramento River and Delta Regions. As a receiving area, beneficial effects can result from increased agricultural productivity, employment opportunities, and increased reliability of urban water supplies.

Storage

Implementing the Storage element in the San Joaquin River Region would result in effects similar to those described for the Sacramento River Region, except that more productive agricultural land might be converted for new storage facilities. Total losses in agricultural revenues could be an additional $25 million annually. On a regional basis, these effects are considered small adverse economic effects; however, they may be important on a localized basis. Possible methods of alleviating these effects were discussed for the Delta Region.

More productive agricultural land might be converted for new storage facilities in the San Joaquin River Region.

Agricultural water users may obtain additional water supplies, which could reduce or eliminate net losses. The San Joaquin River Region stands to gain more than most agricultural regions from new water supplies since the region is relatively water scarce and water is relatively expensive. Expenditure of construction funds also could be beneficial.

7.10.7.5 OTHER SWP AND CVP SERVICE AREAS

The Other SWP and CVP Service Areas would experience a pattern of impacts similar to those described for the Bay Region, except as discussed below.

Ecosystem Restoration, Water Quality, Levee System Integrity, Water Use Efficiency, Water Transfer, and Watershed Programs

The Other SWP and CVP Service Areas could be affected by most programs as a source of finance. Current costs and cost allocation are unknown. Water quality benefits could benefit regional economies by reducing the cost of water treatment. The Water Use Efficiency Program, especially urban water efficiency and water reuse actions, could result in a relatively important effect on this region. Water supply reliability might be increased, but costs of additional conservation and water reuse may be more than other available supplies. Because the region is located relatively distant from the Delta, effects on Delta recreation or construction would have little effect on this region. Increased water transferred to the region could increase water supplies and decrease the need for other, probably more expensive, sources.

The Other SWP and CVP Service Areas could be affected by most programs as a source of finance.

Storage

With new storage, and before considering Program cost shares, M&I water supply cost savings could be $80-$250 million per year. Most water from Program Storage probably would replace other supplies, but any increases in water supply caused by increases in the amount of water exported to the region could increase regional revenues and jobs. New Program water supplies could improve the quality of water supplies in the region. Savings from reduced treatment costs and end-user costs may be important. The potential adverse effects of financing storage have not been estimated.

Most water from Program Storage probably would replace other supplies, but any increases in water supply caused by increases in the amount of water exported to the region could increase regional revenues and jobs.

7.10.8 CONSEQUENCES: PROGRAM ELEMENTS THAT DIFFER AMONG ALTERNATIVES

For regional economics resources, the Conveyance element results in environmental consequences that differ among the alternatives, as described below.

7.10.8.1 PREFERRED PROGRAM ALTERNATIVE

This section includes a description of the consequences of a pilot diversion project. If the pilot project is not built, these consequences would not be associated with the Preferred Program Alternative.

Improvements in conveyance and CVP and SWP wheeling are expected to provide about 200-300 TAF on average and 30-50 TAF in critical years as compared to the No Action Alternative. Benefits would be partially or completely offset by costs of the improvements. Local beneficiaries would pay for the share of the Program water supply that they use. The effects on public finance and regional economics from financing conveyance and storage are currently unknown.

Benefits would be partially or completely offset by costs of the improvements.

Delta Region

Improved conveyance could increase water supply, especially in the west Delta, reducing costs for other supplies. Without new storage, the increase in water supply in average years would be about four times the increase in dry years. Improvements in through-Delta water conveyance could improve urban water quality in the western part of the region. Water quality improvements from improved conveyance are expected to be important. Cost savings may involve salinity and DBP precursors. Changes in operations are not anticipated to adversely affect regional economics. Construction expenditures could result in temporary impacts on local economies.

Without new storage, the increase in water supply in average years would be about four times the increase in dry years.

Some agricultural land would be lost, reducing agricultural revenues above Ecosystem Restoration Program effects.

Bay Region

Water supply and urban water quality would be improved. Cost savings may involve salinity and DBP precursors. Changes in operations are not anticipated to adversely affect regional economics. Some of the expenditure for construction of conveyance could spill over from the Delta Region into the Bay Region. The effects of financing conveyance on regional economics are currently unknown.

Cost savings may involve salinity and disinfectant by-product precursors.

Sacramento River and San Joaquin River Regions

Water supply increases would improve agricultural economics. Water quality improvements would occur for a few small urban water users south of the Delta.

Changes in operations are not anticipated to adversely affect regional economics. Some of the expenditure for construction of conveyance could spill over from the Delta Region into the Sacramento River and San Joaquin Regions. The effects of financing conveyance on regional economics are currently unknown.

Some of the expenditure for construction of conveyance could spill over from the Delta Region into the Sacramento River and San Joaquin Regions.

Other SWP and CVP Service Areas

New Program water supplies and improved conveyance could improve the quality of water supplies in the region. Reduced concentrations of salinity and DBPs could result in important cost savings and increased disposable income in the region. Any increases in water supply caused by increases in the amount of water exported to the region could increase regional revenues and jobs. The potential adverse effects of financing the Preferred Program Alternative have not been estimated.

Any increases in water supply caused by increases in the amount of water exported to the region could increase regional revenues and jobs.

7.10.8.2 ALTERNATIVE 1

All Regions

The patterns of effects for Alternative 1 generally would be identical to those described for the Preferred Program Alternative, except for differences involving Conveyance elements. In comparison to the No Action Alternative, salinity and concentration of bromides in water exports from the south and west Delta would increase. Increased costs for water treatment and end-user costs would adversely affect regional economies in the Bay and South Coast Regions.

With storage, the amounts and costs of other non-Program water supplies would be reduced; but the costs of Program storage would be paid by the beneficiaries. Local, temporary economic effects associated with construction of storage and conveyance facilities would occur.

Alternative 1 with storage would further increase water supplies.

7.10.8.3 ALTERNATIVE 2

All Regions

The patterns of effects for Alternative 2 would be similar to those described for the Preferred Program Alternative. Export water quality would be improved even more than under the Preferred Program Alternative. The pattern of impacts on agricultural lands in the Delta would be more and somewhat different.

7.10.8.4 ALTERNATIVE 3

Delta Region

The patterns of effects for Alternative 3 would be similar to those described for Alternative 2, except that (1) export water quality at Clifton Court would be improved even more; (2) export water quality at the CCWD intake and at the Old River at SR 4 would decline in comparison to Alternative 2, but still would be better than under the No Action Alternative; (3) the pattern of impacts on agricultural lands in the Delta would be somewhat different; (4) more loss of agricultural land would occur in the Delta; and (5) water supply increases would be less on average. For regional economics, the implications of Alternative 3 include more construction impacts in the Delta, water quality benefits in export regions in terms of reduced treatment costs, and more adverse effects on agricultural economies in the Delta.

Construction of isolated conveyance facilities would generate new economic activity in the Delta region during the construction phase.

Construction of isolated conveyance facilities would generate new economic activity in the Delta region during the construction phase, resulting in moderate beneficial effects on income, employment, and public finance. Total construction expenditures are expected to be from $1-$2 billion above those costs identified for the through-Conveyance improvements. Most of these effects would be short term. In the long term, some agricultural land would be lost, reducing agricultural revenues by about $20 million annually above Ecosystem Restoration Program effects. The effects on public finance and regional economics from financing conveyance are currently unknown.

In the Bay Region, construction of isolated conveyance facilities could generate new economic activity, depending on the amount of spillover from the Delta Region.

Bay Region

In the Bay Region, construction of isolated conveyance facilities could generate new economic activity, depending on the amount of spillover from the Delta Region. Most

of these effects would be short term. Conveyance facilities could improve the quality of water supply for some urban water users, but water quality in some locations would be less than under the Preferred Program Alternative. The effects on public finance and regional economics from financing conveyance are currently unknown.

Sacramento River Region

In the Sacramento River Region, effects associated with construction of isolated conveyance facilities would be similar to those described for the Bay Region, except that urban water quality would be unaffected.

San Joaquin River Region

In the San Joaquin River Region, effects associated with construction of isolated conveyance facilities would be similar to those described for the Sacramento River Region, except that the improved quality of export water would be a benefit to some urban water supplies.

Other SWP and CVP Service Areas

Impacts in the Other SWP and CVP Service Areas associated with construction of isolated conveyance facilities would be similar to those described for the Bay Region. Differences include less construction expenditure spillover, potential for substantial urban water quality cost savings because baseline levels of water use and salinity are higher, and a larger share of export water supplies and subsequent repayment.

The Other SWP and CVP Service Areas would experience less construction expenditure spillover, greater potential for water quality cost savings, and a larger share of export water supplies and subsequent repayment.

7.10.9 PROGRAM ALTERNATIVES COMPARED TO EXISTING CONDITIONS

This section presents the comparison of existing conditions to the Preferred Program Alternative and Alternatives 1, 2, and 3. This programmatic analysis found that the potentially beneficial and adverse effects from implementing any of the Program alternatives when compared to existing conditions are essentially the same effects as those identified in Sections 7.10.7 and 7.10.8, which compare the Program alternatives to the No Action Alternative.

The No Action Alternative assumes 2020 development conditions. In regional economics, 2020 regional economies are larger than the 1995 existing conditions economies. These larger economies require more water or more demand management actions, and existing supplies are stretched more. Without new supplies or more

In regional economics, 2020 regional economies are larger than the 1995 existing conditions economies. These larger economies require more water or more demand management actions, and existing supplies are stretched more. Without new supplies or more demand management actions, shortages are more frequent and larger, as a proportion of demand, than under existing conditions.

demand management actions, shortages are more frequent and larger, as a proportion of demand, than under existing conditions. Also, the water quality of Delta exports under the No Action Alternative is expected to be worse in 2020 than under existing conditions. Water quality improvements in 2020 have the potential to be more valuable, in terms of avoided costs, than they are under existing conditions.

At the programmatic level, the comparison of the Program alternatives to existing conditions did not identify any additional adverse environmental consequences than were identified in the comparison of Program alternatives to the No Action Alternative.

The benefits of the Program on regional economics under the Preferred Program Alternative include:

- Increases in recreation-related or construction-based economies
- Increased land values due to flood protections
- Reduced cost to some water supplies due to increased storage
- Some increases in regional revenues and jobs associated with the Storage Program

The potential adverse effect on the Delta Region of converting agricultural lands to other uses remains an unavoidable effect when compared to existing conditions.

7.10.10 ADDITIONAL IMPACT ANALYSIS

Cumulative Effects. For a summary comparison of cumulative effects of all resource categories, please refer to Chapter 3. For a description of the programs and projects that contributed to this cumulative impact analysis, please see Attachment A.

Cumulative effects involve a number of projects and actions that may add to Program effects in the following areas:

- Agricultural land conversion and loss of agricultural economies
- Construction expenditure impacts
- Changes in costs of water supply
- Changes in recreation spending
- Cost recovery and cost allocation

Several actions would influence agricultural land conversion to other uses. In particular, the Delta Wetlands Project would result in additional loss of land in the Delta by inundation. Other programs that may influence Delta land use include the ISDP and certain provisions of the CVPIA. The CVPIA would not substantially affect irrigated land in the Delta. Cumulative impacts on farm revenues and employment from land conversion are adverse, primarily because impacts from the Program alone are adverse.

Several actions would influence agricultural land conversion to other uses. Other projects also would change water supply and recreation spending.

Many proposed projects could involve construction expenditure effects in the Delta and elsewhere. These effects would be beneficial, from the perspective of regional economics, as well as temporary; therefore, a cumulative effect analysis is not required.

The Program and other projects would change water supply and recreation spending—in particular, the CVPIA, Delta Wetlands, American River Watershed, Supplemental Water Supply, and Pardee Reservoir Enlargement Projects. These changes would result in beneficial effects from the perspective of regional economies.

Program actions could result in adverse effects on regional economics through cost recovery. These effects are not considered adverse either alone or in combination with other new finance, water pricing changes, or new costs. One exception may involve the water pricing provisions of the CVPIA. Increased costs of irrigation water under the CVPIA, combined with increased costs for conservation and water under the Program, could result in an adverse effect on some agricultural economies that depend on the CVP service areas.

Growth-Inducing Effects. If improvements in water supply are caused by the Preferred Program Alternative, the Preferred Program Alternative could induce growth, depending on how the additional water supply was used. If the additional water was used to expand industry and urban housing development, the proposed action would foster economic and population growth.

Water supplies can allow growth to occur that would not otherwise be possible.

Regional economics is often concerned with factors that affect regional economic growth, and water supplies can allow growth to occur that would not otherwise be possible. Local governments sometimes have restricted growth because water supplies were unreliable. The Preferred Program Alternative would increase water supplies, but these supplies are expected to replace other water supplies that would have been developed to accommodate growth. Water supplies also might encourage growth if they are inexpensive. Inexpensive supplies might attract water-intensive industries and new jobs. Program supplies would not be inexpensive. Therefore, the Preferred Program Alternative is not expected to result in adverse effects on regional economic growth.

Short- and Long-Term Relationships. The Preferred Program Alternative generally would maintain and enhance long-term productivity of regional economics but may cause adverse effects on regional economics resulting from short-term uses of the environment.

The Preferred Program Alternative would require conversion of agricultural land for habitat and storage and conveyance. Some habitat could be lost to accommodate storage and conveyance facilities. No effects are expected through the mechanism of regional economics.

Irreversible and Irretrievable Commitments. Storage and conveyance features could result in the irretrievable commitment of resources such as construction materials, labor, energy resources, and land conversion.

An irreversible and irretrievable commitment of resources may occur if Program water supplies encourage or allow urban economic growth. The Program is not expected to result in significant effects on urban economic growth; therefore, no irreversible and irretrievable commitment of resources are expected in the area of regional economics.

An irreversible and irretrievable commitment of resources may occur if Program water supplies encourage or allow regional economic growth.

7.10.11 ADVERSE EFFECTS

Potential adverse effects on farm revenues and employment that occur as agricultural lands in the Delta are converted to other uses may not be avoidable.

Potential adverse effects on farm revenues and employment that occur as agricultural lands in the Delta are converted to other uses may not be avoidable.